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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,124	09/26/2005	Toru Inoue	1089.45436X00	4032

20457 7590 11/05/2010

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EXAMINER	
CHANG, VICTOR S	

ART UNIT	PAPER NUMBER
1788	

MAIL DATE	DELIVERY MODE
11/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,124	INOUE ET AL.	
	Examiner	Art Unit	
	VICTOR S. CHANG	1788	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6,14-18,20 and 28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,14-18,20 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. In view of the Appeal Brief filed on 7/21/2010, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

2. Applicants' arguments filed on 7/21/2010 have been entered. Claims 1, 6, 14-18, 20 and 28 are active.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Rejections not maintained are withdrawn.

Claim Rejections - 35 USC § 112

5. Claims 1, 6, 14-18, 20 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 2-3, the limitation

> "a sound absorption layer that is light in weight and has a thickness that varies from one region to another in a range of 1 to 50 mm"

is vague and indefinite. More particularly, it is unclear whether the recited range relates to the "thickness" or the "variation of the thickness" of the sound absorption layer. Applicants are reminded that the "range of thickness" and "range of thickness variation" are distinctly different features. For the present Office action, based on applicants' provided support (see Remarks filed 12/11/2009, page 6), the intended scope of the claim language is interpreted as meaning the sound absorption layer has a thickness range of 1 to 50 mm, and arbitrarily varies its thickness from one region to another in a range (range of thickness variation) not greater than 50 mm. See specification page 21 and Fig. 4. Clarification is required in the next reply.

It should be noted that while the specification discloses the sound absorption layer thickness in a range of 1 to 50 mm, nowhere is there a disclosure that the thickness varies from one region to another in a range of 1 to 50 mm.

Rejections based on Prior Art

6. Claims 1, 6, 14-18, 20 and 28 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lucca et al. (US 4966799), and evidenced by Flowers et al. (US 4131664).

Lucca's invention relates to a vehicle noise reducing element (sound insulator). See Abstract. The element can be used as either a sound screen without a holding frame (first embodiment), and also has sufficient compressive strength to be used as a sound-absorbing and sound-insulating bodywork part (second embodiment) without a supporting surface in a modern plastic bodywork for motor vehicles. This allows the weight of the overall construction to be reduced considerably (ultra-light weight). See col. 1, ll. 63 to col. 2, ll. 5. Fig. 2 illustrates an embodiment of the element containing a padding layer 21, a thermoplastic sheet layer 23, and a thin heat-sealable adhesive layer 27 between the layers 21 and 23. The padding layer is sound absorbing (sound absorption layer) and consists of a thermoformed fiber mat bonded with a thermoplastic. See col. 2, ll. 67-68. The thickness of the padding layer depends on the required sound absorption (thickness is result effective for sound absorption). See col. 3, ll. 40-41. Useful fiber mat for the sound-absorbing layer 21 has a low density of 50-150 kg/m^3 (0.05-0.15 g/cm^3). See col. 3, ll. 49-55. The thermoplastic sheet layer (air impermeable layer) consists of polypropylene. See col. 2, ll. 59 through col. 3, ll. 6. The thickness of the element can be adapted to specific use requirements. When the noise reducing element is used as a sound insulator and needs to have little mechanical stability but good sound absorption, the element should possess a relatively thin supporting layer (air impermeable layer) and a comparatively thick padding layer (sound absorption layer). See col. 3, ll. 5-6. Figs. 1-3 show that all the layers are coextensive (the thin heat-sealable adhesive film layer 27 provides 100% adhesion

area). Fig. 4 illustrates one application of having a sound-absorbing lining 41 installed between the engine space (source of noise) and the vehicle interior. The sound absorbing padding layer faces the engine space. See col. 3, ll. 20-23.

For claims 1, 14, 15, 17, 18 and 28, Lucca teaches the same component compositions of the sound insulator as the claimed invention. Lucca is silent about the following structural features in the second embodiment: 1) the sound absorption layer thickness has a range of 1 to 50 mm, 2) arbitrarily varies its thickness from one region to another in a range (range of thickness variation) not greater than 50 mm, and 3) the thickness and area-weight of the thermoplastic (air-impermeable) layer, 4) the adhesion peel strength between the sound-absorbing layer and the thermoplastic sheet layer, and 5) the sound absorption layer faces a vehicle body panel, and the air-impermeable layer faces vehicle interior. However, regarding 1), since Lucca explicitly teaches that the thickness of the padding layer is result effective for sound absorption, a workable range of thickness for vehicle body work is deemed to be either anticipated, or obviously provided by practicing the invention of prior art. Regarding 2), since the variation of thickness from one region to another is in a range not greater than 50 mm (see interpretation set forth above), the limitation would include a thickness variation of 0 mm, i.e., uniform in thickness, and it is read upon by Lucca's Fig. 2. Further, even if the intended structural scope relates to a padding layer having an uneven thickness, since Lucca teaches in the second embodiment that the element has sufficient compressive strength to be used as a sound-absorbing and sound-insulating bodywork part without a supporting surface in a modern plastic bodywork for motor vehicles, Lucca infers that the element is sandwiched as a core material between vehicle body panel and vehicle interior surface layer, and these outer layers of the bodywork are known to

have uneven contours, which necessary results in a padding layer having uneven thickness under compressed state in the sandwiched structure. As an evidentiary support, the uneven contours of the bodywork outer layers are illustrated in Figs. 4-6 by Flowers's reference, which relates to an acoustical vehicle panel. As to the range of the thickness variation, since the padding thickness is result effective to sound absorption, a workable range of low thickness variation is deemed to be either anticipated, or obviously provided by practicing the invention of Lucca, motivated by the desire to maintain sufficient sound absorption properties over the entire bodywork. Regarding 3), since Lucca renders the general structure and composition of the noise reducing element of the claimed invention either anticipated or obvious, as set forth above, and they are for the same end use, a workable thin thermoplastic (air-impermeable) layer thickness is also deemed to be either anticipated, or obviously provided by practicing the invention of prior art. As to the area-weight of the thermoplastic layer, it is merely an inherent property which inversely related to the thickness value of the thermoplastic layer. Regarding 4), again, since Lucca teaches a sound insulator having generally the same structure and composition, and for the same use as the claimed invention, a workable adhesion peel strength between the sound absorbing layer and the sheet layer is also deemed to be either anticipated, or obviously provided by practicing the prior art for the same end use as the claimed invention. Regarding 5), since Lucca explicitly teaches in one embodiment that the sound absorbing padding layer faces engine space (source of noise), orient the padding layer toward the vehicle body panel (source of noise) is also deemed to be either anticipated, or obviously provided by practicing the invention of prior art. Finally, regarding the "resonance" property of the air impermeable layer, absence of any

distinct structure/composition feature, it is deemed to be an inherent functional property to the same structure/composition for the same end use as the claimed invention.

For claims 6, 16 and 20, since Lucca's noise reducing element has sufficient compressive strength as set forth above, a workable initial compression repulsive force is also deemed to be either anticipated, an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain the required strength for the same end use as the claimed invention.

Response to Arguments

7. Applicants' arguments have been carefully considered, but are moot in view of the new grounds of rejections. More particularly, regarding applicants' lengthy discussion of a "spring-mass vibration model" of the sound insulator at Appeal Brief, pages 10-14, applicants are respectfully reminded that applicants' continued comparison to Lucca's first embodiment (see above), which is not relied upon in the present grounds of rejection, is misplaced and unpersuasive. If applicants believe that their invention has distinct structural or compositional features not taught or obviously provided by Lucca's second embodiment, which is the basis of the present grounds of rejections, applicants may wish to amend the claims accordingly in the next reply. It should be noted that while the model may provide better understanding of the sound insulation properties, these properties are nevertheless inherent to the same structure and composition which are either anticipated or rendered obvious for the same end use by Lucca's teachings, as set forth above.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR S. CHANG whose telephone number is (571)272-1474. The examiner can normally be reached on 6:00 am - 4:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1788